3. If there is no ranch road and sensitive resources are encountered, the existing patrol road would be used to install the PVBs following similar steps as described in Number 2 above.
4. When sensitive resources are sporadically located within the project corridor the 2-track primitive trail/PVBs would deviate to the north, not to extend past the existing patrol road, to avoid those resources. Upon passing the sensitive resource the 2-track primitive trail would resume its course immediately adjacent to the border.

Figure 2-4 provides an example of how the construction of PVBs would occur throughout the project corridor. Additionally, Appendix B contains vegetation maps that also depict the construction corridor for the Proposed Action Alternative. The existing ranch road is currently a primitive 2-track trail that is approximately 8 feet wide. This ranch road is in a degraded state due to use by ranchers and IAs. The footprint of the ranch road would be widened to a 12 foot wide unimproved road in sections where it is used for PVB construction.

The PVBs would extend from the eastern boundary of the OPCNM and continue eastward parallel to the international border to the western base of the Pozo Verde Mountains on the TON. In areas where the terrain dictates that vehicle passage is impractical, the PVBs would be installed to the edge of that terrain or feature. Temporary vehicle barriers would be placed, where practicable, in those areas where installing PVBs is not feasible due to topographic and geologic features (*e.g.,* canyons and rock outcrops). It is estimated that 2.5 miles of temporary vehicle barriers would be installed under this alternative (see Figures 2-1a and 2-1b). The temporary barriers would be placed along the southern toe of the existing patrol road and requires no ground disturbance. Figure 2-5 is a schematic drawing of a typical temporary vehicle barrier.

Three locations within the project corridor that are currently used as traditional transboundary migration routes by members of the TON would remain open. These locations are the Serapo's Gate, Papago Farms Gate, and the San Miguel Gate (see Figures 2-1a and 2-1b). These gates are approximately 12 feet wide and have cattle guards in place to eliminate cattle migration across the U.S.-Mexico border.

In areas where the PVBs would be installed along the existing patrol road, the barbed wire fence adjacent to the patrol road would be removed and the PVBs would serve as a fence for livestock. The OBP would be responsible for maintaining the PVBs including the replacement of the smooth strand wire associated with the PVBs. In all other areas, the barbed wire fence that currently exists along the northern boundary of the Roosevelt Reservation would be lowered at the turn-arounds to allow for construction access to the border; however, at the conclusion of the

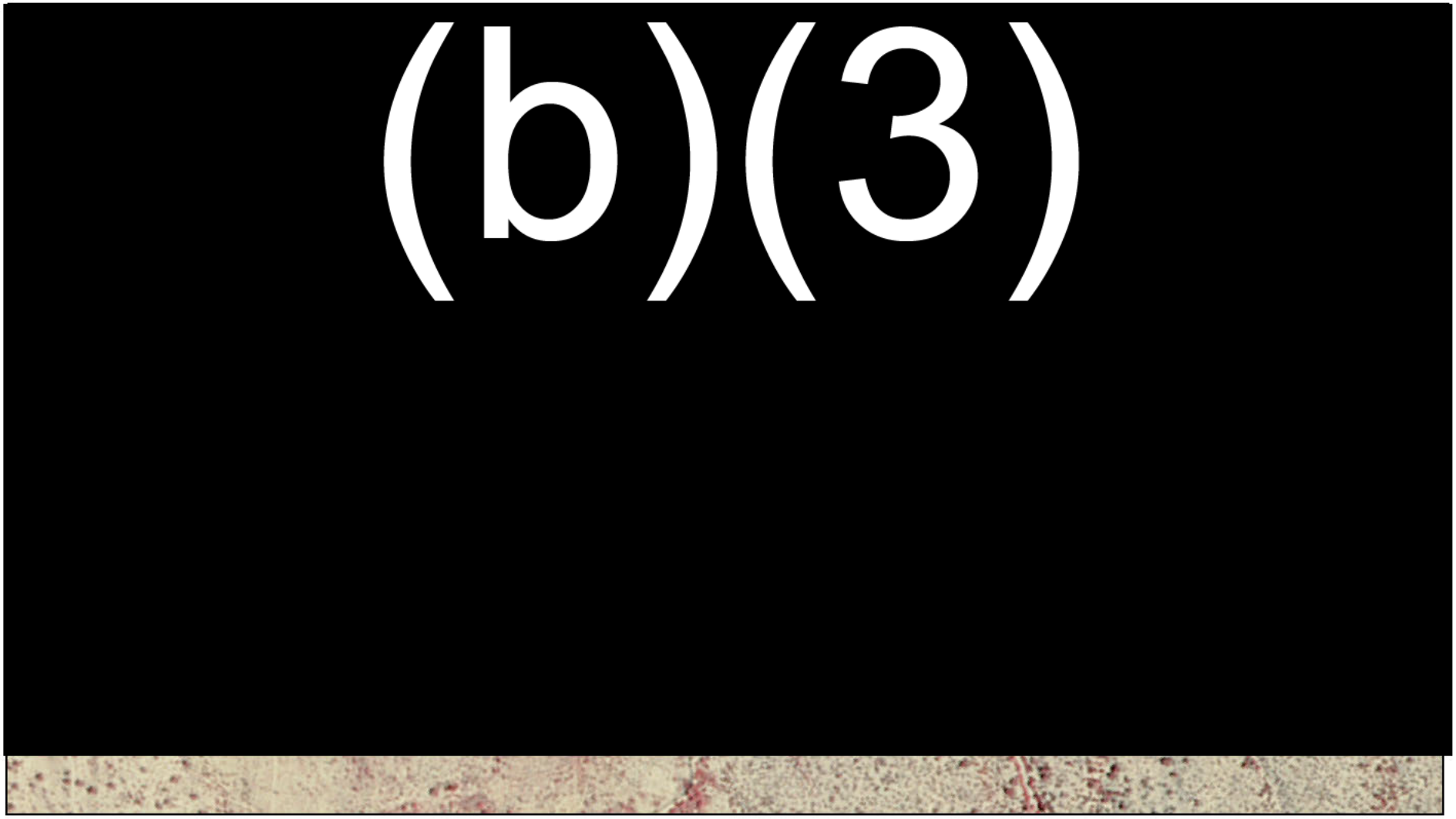

Figure 2-4: Example of Construction Corridor

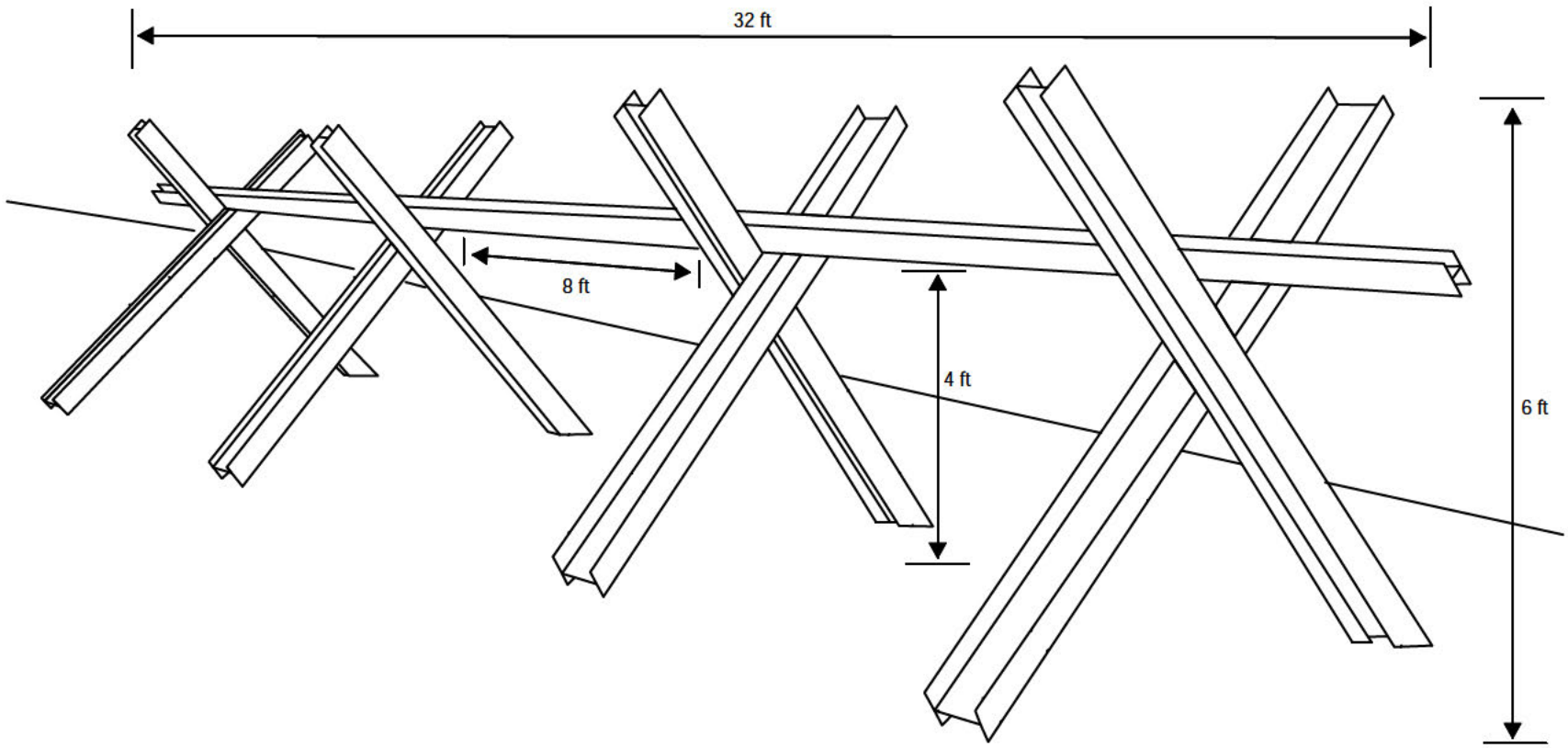

Figure 2-5: Schematic of Temporary Vehicle Barrier

construction process, all fencing that is lowered would be raised to its original condition. Coordination with the Chukut Kuk and Gu Vo districts' ranchers would occur in order to minimize the potential for lost cattle during construction activities.

In order for the U.S. Section, International Boundary and Water Commission (USIBWC) to conduct maintenance activities to the border monuments within the project corridor, gates must be installed in specific locations near the border monuments. These gates would give the USIBWC the ability to access the border in areas where the monuments are located south of the PVBs. Therefore, due to the deviations in the PVBs, approximately five hardened and secure gates would be necessary (see Figures 2-1a and 2-1b). These gates would have a similar footprint as the PVBs, would consist of metal pipe, and would be approximately 10 feet wide. The gates would be locked and maintained by the OBP.

The improvements made to the existing patrol road and access roads would be contained within the footprint of these existing roads (approximately 28 feet wide). Currently, the existing patrol road is located approximately 60 feet north of the U.S.-Mexico border on the TON. During construction activities a 10-foot wide temporary construction easement on each side of the existing patrol road and access roads would be required to facilitate the road improvements. The four access roads to be improved include: Papago Farms Road, Vamori Road, an unnamed road connecting the San Miguel Gate to Indian Route 19, and an unnamed road south of Menager's Village (see Figures 2-1a and 2-1b). The improved patrol road and access roads would also be surfaced with an aggregate surface and treated with a soil stabilizer such as PennzSuppress, Road Oyl, lignin sulfonate, or similar materials. Upon completion of the road improvements, only a top shot (*i.e.,* small quantity applied to the surface) of the soil stabilizer would be required at a frequency anticipated not to exceed more than once per year for maintenance purposes to ensure the longevity of the roadways. The OBP would maintain the improved roads upon completion of the construction activities. This top shot would not require any ground disturbing activities and careful application of the stabilizer would ensure no material is spread outside of the road right-of-way (ROW). The aggregate materials to be used would be brought in or supplied from local sources. Surfacing is required to reduce maintenance costs and improve driving conditions during inclement weather. Surfacing would also reduce fugitive air particles created by OBP and private vehicles while traveling on unimproved roads. These types of road surfacing materials are approved by the U.S. Environmental Protection Agency (EPA) and are non-toxic to

fish and wildlife. A copy of the MSDS for PennzSuppress and Road Oyl are contained in Appendix C as examples.

Roads that are currently dragged would continue to be dragged, where applicable. "Dragging" is accomplished by the use of a 4-wheel drive vehicle towing several tires bolted together and pulled on sections of the road at speeds between 5 and 7 miles per hour (Photograph 2-3). This method erases old tracks and smoothes the road surface so any new tracks crossing the road can be easily detected. The frequency at which the road would be prepared can vary, but could occur several times daily.

Photograph 2-3. Drag Road Preparation

Routine maintenance to the access and patrol roads would be required periodically as part of the Proposed Action Alternative. Routine maintenance of these roads would require grading, leveling, and replacing road materials.

The Proposed Action Alternative would also include the replacement of nuisance drainage structures and the construction of new drainage structures and low water crossings along the patrol and access roads. Drainage structures would consist of reinforced concrete pipe (RCP) or concrete box culverts. The size and number of the RCPs and box culverts required depends upon the width of the drainage and the expected 100-year flood flow volumes and velocities at each of the drainage crossings. Each drainage structure would be designed to ensure that flows are not impeded and, thus, avoiding creation of backwater areas, and that the velocity is not significantly changed at the outfall. Stilling basins, rip rap, gabion baskets, and other designs would be used to dissipate the flow energy. Head, tail, and cut-off walls would be constructed, as appropriate, to reduce scouring and ensure the stability of the drainage structure.

Water would be trucked into the construction area from various wells on the TON in order to facilitate the construction of the proposed infrastructure. The water would be obtained through pre-existing wells located at Menager's Village and the San Miguel Joint Processing Center and

one new well to be installed at the OBP Papago Farms Camp. The latter would also be used by the OBP agents that man this Camp detail (DHS 2005a).

Staging areas would be assembled approximately every 2 miles. The staging areas would be no more than 1,000 square feet in size and would be located within the footprint of the existing border road. Turn-arounds would be established approximately every mile or where deviations in the construction corridor occur for the purposes of allowing equipment trucks to enter and exit the construction corridor (see Figure 2-4). These turn-arounds would connect the 2-track primitive trail or ranch road to the existing border road and would not exceed 30 feet in width. The majority of the turn-arounds would be blocked off and rehabilitated by the OBP once construction activities are complete. However, 10 turn-arounds would not be rehabilitated or blocked off and would remain for access to the 2-track primitive trail for maintenance vehicles. These turn-arounds would be spaced approximately 5 miles apart (see Figures 2-1a and 2-1b).

To account for heat restrictions for adequate concrete drying and curing processes, most concrete pours for low water crossings, other drainage structures, and PVBs would need to take place during pre-dawn hours during summer months. The normal work schedule during these times would be from 3:00 AM to 9:00 AM. However, the possibility exists that work would have to occur on a 24-hour basis. A 24-hour schedule would be implemented only when additional efforts are needed in order to maintain the work task schedule or when additional crews are available. In order to facilitate construction activities during these work hours, as well as illuminate staging areas, portable lights would be used. It is estimated that no more than 10 to 14 lights would be in operation at any one time.

A 6-kilowatt self-contained diesel generator powers these lights (Photograph 2-4). Each unit typically has four 400 to 1000-watt lamps. The portable light systems can be towed to the desired construction location, as needed. Upon completion of construction activities, all portable lights would be removed from the project corridor. Lights would be oriented to illuminate the work area. The area affected by illumination is limited to 200 feet from the light source.

Photograph 2-4. Portable lights

If military units are used, then bivouac sites would be established. Three possible bivouac sites have been delineated and include the OBP Papago Farm Camp, the San Miguel Joint Processing Center, and an area within Menager's Village, as delineated by the TON (see Figures 2-1a and 2-1b).

In summary, the Proposed Action Alternative would include construction of approximately 50 miles of PVBs, 35 miles of 2-track primitive trail, 2.5 miles of temporary vehicle barriers, 0.5 miles of temporary turn-arounds, 0.2 miles of permanent turn-arounds, improvements to approximately 70 miles of existing border road and 11 miles of access roads, and future routine maintenance of the PVBs and improved border road. Furthermore, this alternative would also use approximately 6 miles of existing ranch road and 9 miles of the existing patrol road to install the PVBs near sensitive resources. Normal OBP patrol efforts would continue along the improved border and access roads. It should be noted that if this alternative is chosen, approximately 115 acres of land between the PVBs and the U.S.-Mexico border would be left unprotected throughout the project corridor and would remain open to illegal traffic from Mexico.

2.3 ALTERNATIVE 3: 2-TRACK PRIMITIVE TRAIL AND PVBS ALONG THE BORDER ALTERNATIVE

This alternative would install PVBs immediately adjacent to the U.S.-Mexico border regardless of sensitive resources through the construction of a 2-track primitive trail. This alternative would not use an existing ranch road or patrol road for installation purposes nor would it deviate north to avoid any sensitive resources. The 2-track primitive trail would parallel the PVBs and would extend for approximately 50 miles (Figures 2-6a and 2-6b).

The road improvements, turn-arounds, staging areas, gates used for trans-boundary migration, work schedules, portable lighting systems, and dragging operations described under Alternative 3 would be implemented as described by the Proposed Action Alternative.

In summary, Alternative 3 would include approximately 50 miles of PVBs and 2-track primitive trail, 2.5 miles of temporary vehicle barriers, 0.7 miles of temporary turn-arounds, 0.2 miles of permanent turn-arounds, improvements to approximately 70 miles of existing border road and 11 miles of access roads, and future routine maintenance of the PVBs and improved border road.

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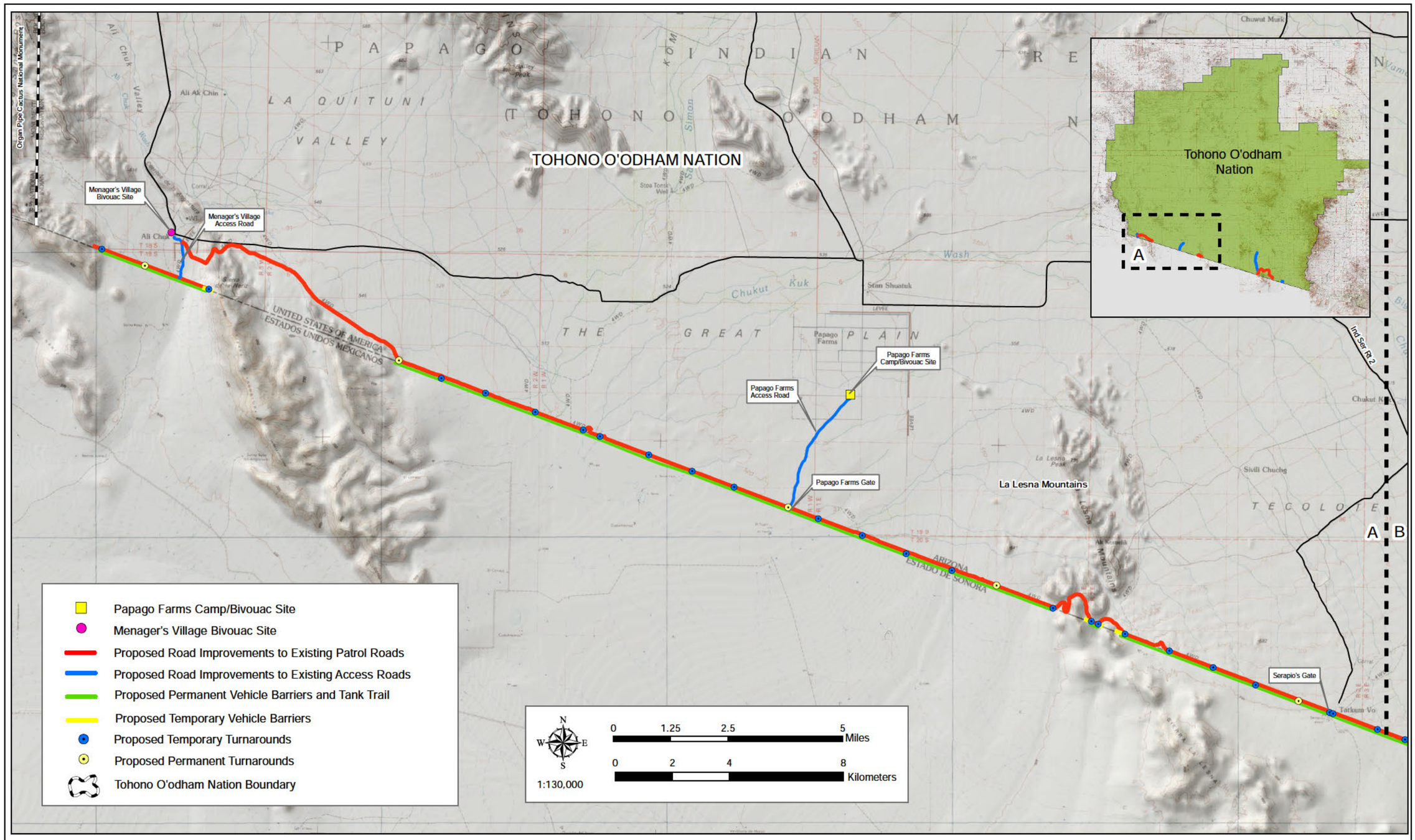

Figure 2-6a: Alternative 3

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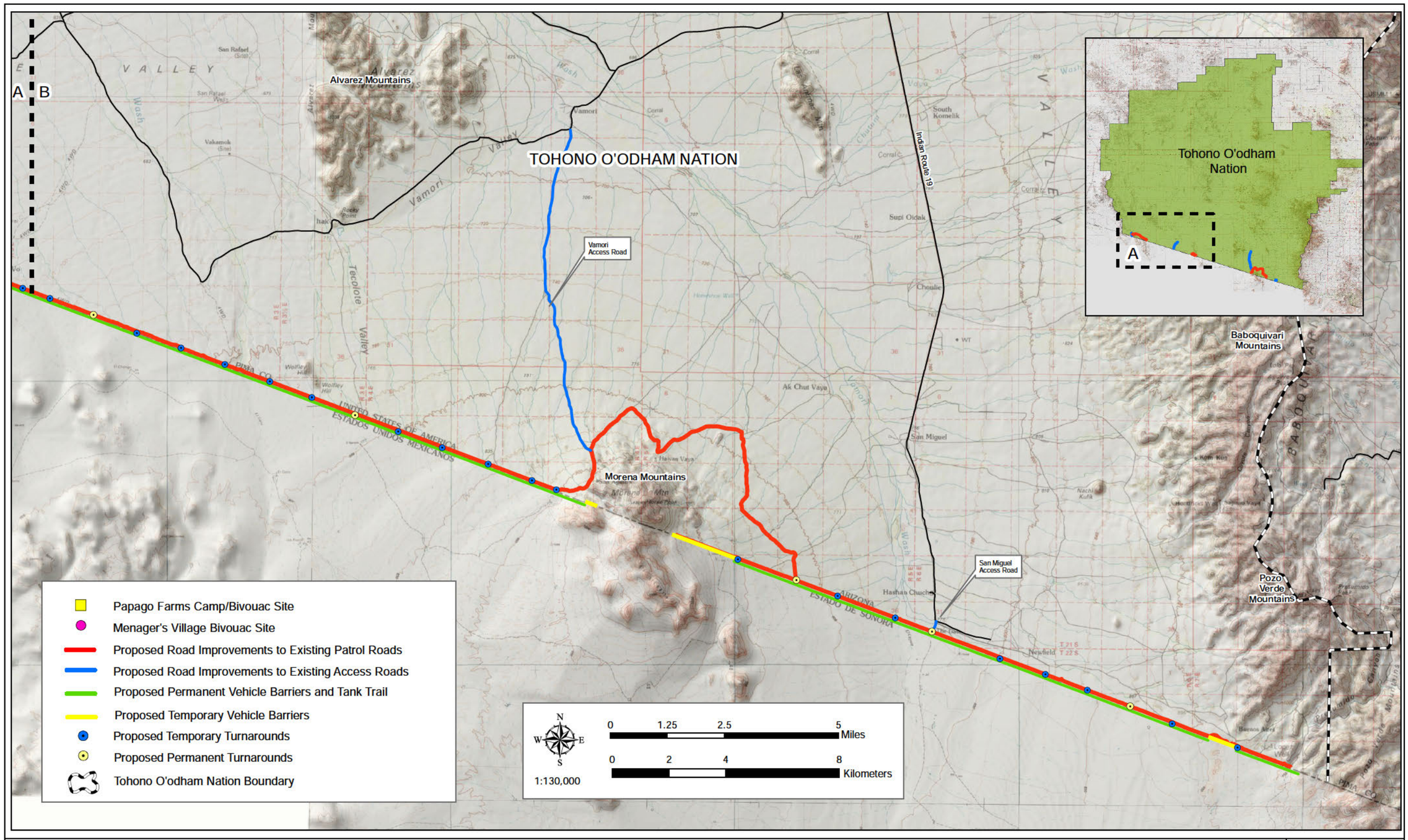

Figure 2-6b: Alternative 3

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Normal OBP patrol efforts would continue along the improved border and access roads. This alternative would fully protect all U.S. lands north of the border from illegal vehicle traffic.

2.4 ALTERNATIVE 4: NEW PATROL ROAD AND PVBS ALONG THE BORDER ALTERNATIVE

This alternative would also install PVBs immediately adjacent to the U.S.-Mexico border regardless of sensitive resources. No access from the ranch road and patrol road or deviations in the construction corridor to avoid any sensitive resources would be used under this alternative. The primary difference between this alternative and Alternative 3 is that a new all-weather patrol road (28 feet wide) would be constructed adjacent to the border instead of a 2-track primitive trail (16 feet wide). PVBs would be installed along the southern toe of the all-weather patrol road, adjacent to the border (Figure 2-7a and 2-7b).

Additionally, the existing access roads, and patrol road (where it deviates north of the border to avoid topographic features) would be improved in an effort to afford the construction equipment a drivable road to access the border. Under this alternative the existing patrol road would not be improved in areas where it parallels the U.S.-Mexico border. The improvements to the existing access roads and patrol road (where it deviates north), temporary vehicle barriers, bivouac sites, and staging areas would remain the same as described under the Proposed Action Alternative. The same gates mentioned for the Proposed Action Alternative would remain open as part of this alternative. The turn-arounds for this alternative would be located approximately 1 mile apart and would be used for the access to the border from the existing patrol road. These turn-arounds, too, would be no more than 30 feet wide and would be rehabilitated upon completion of the construction activities with the exception of 10 turn-arounds, similar to the Proposed Action Alternative.

The new patrol road would be constructed immediately north and parallel to the border and the driving surface would be approximately 20 feet wide with 4-foot shoulders (totaling 28 feet). The road would be prepared using native material and an all-weather surface, which would minimize or reduce dust, ruts, and wash boarding that create unsafe driving conditions. An appropriate crown would be maintained for adequate drainage. The material used could come from a local or outside source; however, at this time neither the source of the material nor the quantities required

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